

Plural Formation in Bagri: An Areal Perspective of Phonological Patterns

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Abstract

Bagri is a dialect spoken in North-western India and travels across 3 states: Haryana , Rajasthan and Punjab. It Covers around 14 districts, which is known as the Bagar region. Bagri is a rich dialect showing unique ways of forming plurals that are influenced by the linguistic environment of North Western India. Instead of using separate plural markers, Bagri often relies on phonological changes such as vowel lengthening, consonant shifts, and tonal variations to indicate plurality. These patterns are similar to those found in neighboring languages like Haryanvi, Punjabi, and Rajasthani, suggesting that Bagri's plural formation has been shaped by language contact and interaction.

This study examines how phonological processes influence Bagri's plural formation system, and also how these processes represent larger patterns in Indian language convergence. The study analyzes spoken data from native Bagri speakers to identify major sound changes that occur when nouns shift from singular to plural. The findings show that Bagri's pluralization strategies are not only inherited from its Indo-Aryan roots but are also influenced by the languages spoken around it. This supports the idea that languages in India do not develop in isolation but rather influence each other through interaction over the course of time.

The paper presents a detailed analysis of these phonological processes, supported by field data, and demonstrates how Bagri's pluralization system reflects both genetic inheritance and areal influence. By examining Bagri's plural formation from an areal linguistic perspective, this paper highlights how phonological adaptation plays a role in shaping languages within shared geographical space. The study contributes to our understanding of India as a linguistic area, with languages from numerous regions and backgrounds sharing patterns as the outcome of centuries of interaction. These findings help us better understand the complexities of linguistic diversity and convergence in India.

Keywords: Bagri language, Plural formation, Phonological processes, Indo-Aryan dialects, Areal linguistics, Epenthesis, Tonal morphology, Morphophonemic variation.

1. Introduction

Bagri is a dialect spoken in North-western India and travels across 3 states : Haryana, Rajasthan and Punjab. It covers around 14 districts , which is known as the Bagar region. This dialect exhibits unique phonological processes in pluralization that makes it different from Standard Hindi and other Indo-Aryan languages. Instead of standing heavily on affixation, semantic or syntactic processes including dedicated plural morphemes, Bagri frequently employs phonological modifications, including vowel lengthening, consonant alternations, nasalization, and tonal variations, to indicate plurality.

Plural formation is a critical area of phonological research because it reveals underlying patterns of sound change, morphophonemic interactions, and areal linguistic influence. Bagri belongs to the Indo-Aryan language family which shows a diverse range of pluralization strategies. However, what makes Bagri's system more interesting is its contact and influence from the neighboring languages such as Haryanvi, Punjabi, and Rajasthani, which helped in shaping its phonological structure.

This paper aims to analyze the phonological processes involved in plural formation in Bagri through data and theoretical explanations. By examining vowel alternation, consonant shifts, nasalization, syllabic changes, and areal influences, we can understand how Bagri pluralization functions within the larger Indo-Aryan linguistic landscape.

1.1 phonetic and phonological features of Bagri

Phonemic Inventory

Bagri shares most of its phonemic inventory with Hindi but differs in certain vowel and consonantal processes that are involved in pluralization

VOWELS:

- Short vowels: /ɪ, ɛ, ə, ʊ, ɔ/
- Long vowels: /i, e, a, o, u, æ/
- Nasalized vowels: /ã, ã̃, ã̄, ã̅/

CONSONANTS

- Stops: /p, b, t, d, ʈ, ɖ, k, g/
- Aspirated stops: /p^h, b^h, t^h, d^h, k^h, g^h/
- Fricatives: /s, ʃ, v, f, h/

- Affricates: /tʃ, dʒ/
- Liquids: /ɽ, r, ʌ, l/
- Nasals: /m, n, ŋ, ŋ/
- Glides: /j/

*Nasalization plays a crucial role in forming plurals.



*Map 1 of India and Pakistan showing the highlighted regions where Bagri is spoken

Rajasthan: Anupgarh, Sri Ganganagar, Jhunjhunu, Hanumangarh, Khajuwala, Chattargarh, Loonkaransar, Pugal, Sri Dungargarh, Bikaner, Taranagar, Sardarsahar, Rajgarh, Sidhmukh, Bhanipura, Ratangarh, Churu

Haryana: Sirsa, Fatehabad, Barwala, Adampur, Hisar, Siwani, Loharu, Bhiwani, Bhadra

Punjab: Abohar, Fazilka, Mukhtsar

Pakistan: Bhawalpur, Bahwalnagar

2.1 Aims and Objectives

This study seeks to explore and document the plural formation strategies in the Bagri dialect, focusing specifically on the phonological processes involved and the impact of areal linguistic influences. Bagri, a Northwestern Indo-Aryan dialect spoken across parts of Rajasthan, Haryana, and Punjab, offers a unique system of pluralization that differs significantly from other Indo-Aryan languages such as Standard Hindi. Rather than relying heavily on suffixation or inflectional morphemes, Bagri frequently employs phonological modifications—such as vowel lengthening, tonal shifts, consonant changes, and

epenthesis—as primary strategies for marking grammatical number. This marks a departure from more morphologically driven plural systems and places Bagri within a broader typological category of languages that rely on phonological, rather than morphological, cues for plurality.

The aim of this research is to provide a systematic and descriptive account of these pluralization strategies in Bagri, examining the various phonological mechanisms at play, and to investigate how these strategies have evolved through language contact with neighboring dialects such as Punjabi, Haryanvi, and Rajasthani. The research positions Bagri as a critical linguistic variety within the South Asian context, illustrating how languages in geographical proximity often converge on similar structural solutions despite genetic differences.

To achieve this aim, the study pursues the following objectives:

- To document the phonological processes involved in plural formation in Bagri, with special focus on vowel alternation, consonantal fortition and lenition, epenthesis, tonal modification, reduplication, deletion, and metathesis. Each of these strategies will be analyzed in terms of their phonetic properties and functional roles in marking plural forms.
- To analyze the distribution and conditioning of these phonological processes across different noun classes, syllable structures, and phonological environments. This includes identifying which processes tend to co-occur, under what linguistic circumstances they are triggered, and what functional load they carry in the grammar.
- To explore the extent of areal influence from neighboring dialects and languages on Bagri's pluralization system. By comparing Bagri data with plural formation patterns in Punjabi, Haryanvi, and Western Rajasthani, the study aims to identify shared areal features and distinguish them from internally motivated phonological developments.
- To examine how Bagri plural formation aligns or diverges from broader Indo-Aryan morphological traditions. The study will evaluate to what extent Bagri's strategies are inherited features, contact-induced innovations, or typological anomalies within the Indo-Aryan family.
- To contribute to the theoretical understanding of phonologically driven plural systems, particularly in the context of linguistic areas. This includes examining how phonology can serve grammatical functions typically fulfilled by morphology, and how such systems arise and stabilize within language contact zones.
- By fulfilling these objectives, the research not only adds to the descriptive knowledge of the Bagri dialect but also informs general linguistic theory concerning plural formation, language contact, and phonological typology.

2.2 Research Questions

The current study is driven by the overarching goal of understanding how pluralization is handled in Bagri through phonological means rather than traditional morphological mechanisms. Grounded in both descriptive and theoretical interests, the study raises several specific research questions that guide its analytical direction.

What are the primary phonological processes employed by the Bagri dialect to mark plurality?

This question focuses on identifying the various strategies such as vowel lengthening, tonal modifications, consonant changes (fortition and lenition), epenthesis, deletion, metathesis, and reduplication. It seeks to explore which processes are most frequent, whether they occur in isolation or combination, and how they function to encode the singular-plural distinction.

How are these phonological processes distributed across different lexical items and phonological environments in Bagri?

This question examines the conditioning factors of plural formation. It asks whether certain syllable structures, word-final consonant clusters, or stress patterns are more likely to trigger specific phonological changes. It also looks into whether plural marking is uniform across all noun classes or if variability is linked to factors such as semantics, frequency, or phonotactics.

What evidence exists for the influence of neighboring languages such as Punjabi, Haryanvi, and Rajasthani on the pluralization patterns found in Bagri?

This research question investigates the areal dimension of Bagri's pluralization system. It asks whether the observed phonological strategies can be traced to language contact and convergence, and if similar processes are present in related dialects of the Bagar region. It also asks how Bagri maintains its distinctiveness while sharing typological features with neighboring tongues.

In what ways do Bagri's pluralization strategies align with or deviate from broader Indo-Aryan morphological norms?

This question addresses the typological implications of the data. It aims to assess how Bagri fits into the wider Indo-Aryan family regarding plural formation and whether its reliance on phonological marking is unique, marginal, or reflective of a larger regional trend.

What can the pluralization system of Bagri tell us about the relationship between phonology and morphology in contact languages?

This theoretical question investigates the morphophonemic interface. It considers how grammatical distinctions typically marked by morphology are instead realized phonologically in Bagri and what this reveals about language change, efficiency, and the influence of sociolinguistic context.

These research questions aim to uncover the nature, distribution, and motivation of phonologically driven plural formation in Bagri, thereby offering insights into not only the structure of the dialect itself but also broader linguistic phenomena such as areal diffusion, typological variation, and the interplay between sound and grammar.

2.3 Research Methodology and Theoretical Framework

This study employs a qualitative, descriptive research methodology situated within the broader field of phonological analysis and language documentation. The primary objective is to investigate plural formation in Bagri using a data-driven approach that integrates both synchronic and diachronic perspectives.

2.3.1 Fieldwork and Data Collection

Data for this study were collected through fieldwork conducted across the Bagar region, which spans areas of Rajasthan, Haryana, and Punjab where Bagri is actively spoken. Native speaker consultants were selected to ensure a representative sample of dialectal variation. Participants included speakers from different age groups, genders, and sociolinguistic backgrounds to capture a wide range of phonological behavior. Data collection involved both elicited wordlists and naturally occurring speech recordings. Elicitation tasks focused on minimal pairs, noun paradigms, and plural forms, while spontaneous conversation samples provided insight into real-life usage of pluralization strategies.

2.3.2 Sampling Criteria

Purposive sampling was used to select informants with high linguistic competence in Bagri. Special attention was paid to speakers from rural areas who are less influenced by Hindi-dominated media, as these speakers are more likely to preserve traditional phonological features. Both male and female participants were included to balance sociophonetic variation.

2.3.3 Analytical Framework

The study is grounded in the theoretical tradition of descriptive and comparative phonology, with a focus on morphophonemic processes. Analytical attention was given to identifying consistent patterns of vowel alternation, consonant modification (fortition and lenition), epenthesis, deletion, and tonal variation. These patterns were compared both within Bagri and across neighboring languages such as Punjabi, Haryanvi, and Rajasthani to explore potential areal features.

The diachronic aspect of the study situates Bagri phonology in the context of historical sound changes that have occurred in the broader Indo-Aryan language family. Processes such as tone development, nasalization, and syllable restructuring were evaluated in light of both inherited and contact-induced changes.

2.3.4 Theoretical Orientation

The research draws from areal linguistics and contact phonology frameworks to interpret the influence of neighboring dialects on Bagri's plural system. The notion of a South Asian

linguistic area (Sprachbund), as discussed by Emeneau (1956) and Masica (1991), provides the conceptual foundation for understanding cross-linguistic convergence in this region.

2.3.5 Significance

This methodology not only allows for a detailed description of Bagri's plural formation but also contributes to broader linguistic theory. The findings have implications for phonology-morphology interface theory, typology of number marking, and language change in contact zones. Furthermore, this research contributes to the documentation and preservation of a less-studied Indo-Aryan dialect that faces increasing pressure from dominant regional languages.

3. Literature Review

The phonological processes involved in plural formation have long been a subject of interest in the field of linguistics, particularly within the context of Indo-Aryan languages, which demonstrate a rich typological diversity in morphophonemic patterns. In most standard Indo-Aryan languages such as Hindi, plural marking is achieved through overt suffixation, typically morphological in nature, where morphemes like *-ē* (for feminine nouns) and *-e* (for masculine nouns) are used. However, this conventional model does not fully account for the phonologically driven plural strategies found in non-standard dialects such as Bagri.

The foundational works of Grierson (1908) in the Linguistic Survey of India provided the earliest systematic accounts of dialectal diversity in India, including limited data on Bagri. Although descriptive, Grierson's work primarily offered a macro-level classification of language families and dialect zones without a detailed analysis of morphophonemic behavior. Subsequent descriptive grammars, notably those by Gusain (1999, 2000), have provided more specific linguistic documentation of Bagri, including its phonological inventory, syllable structures, and general morphological patterns. While these studies briefly touch upon plural formation, they do not offer an in-depth analysis of the diverse phonological strategies Bagri employs for number marking.

Areal linguistics offers a broader lens through which Bagri's pluralization system can be understood. Emeneau's (1956) seminal article "India as a Linguistic Area" posits that languages in close geographical proximity often develop shared linguistic features regardless of genetic affiliation. Bagri, spoken in the Bagar region overlapping Rajasthan, Haryana, and Punjab, exists within a highly interactive multilingual environment. The influence of neighboring languages like Punjabi (a tonal Indo-Aryan language) and Haryanvi and Rajasthani varieties is critical in understanding the emergence of tone and epenthetic vowel use in Bagri plurals. Masica (1991) further elaborates on this view, showing how convergence phenomena such as retroflexion, echo-words, and phonological deletion are prevalent across North Indian languages due to prolonged contact and bilingualism.

Other studies have contributed theoretical models for the interaction between phonology and morphology. Shapiro and Rajagopalan (2003) discuss the phonology-morphology interface and how languages can encode grammatical categories like number without strict reliance on affixation. In similar fashion, Ohala (1993) explains how perceptual and articulatory motivations often drive sound change, which can result in plural formation

through purely phonological means such as vowel lengthening, consonantal aspiration, or tonal shift.

Despite these insights, the specific case of Bagri remains under-researched, especially in terms of how its plural system reflects both typological uniqueness and areal convergence. While some comparative studies exist for Hindi and Punjabi plural systems, few have focused on Bagri as a case study of morphophonemic pluralization in contact settings.

This literature review thus reveals a critical gap in detailed, phonologically grounded studies of Bagri’s pluralization system. The present research seeks to fill this gap by offering a comprehensive analysis of plural formation in Bagri through a phonological and areal linguistic lens, contributing to the broader discourse on language contact, morphophonology, and dialectology in South Asia.

4. Syllable Structure and Phonotactic Constraints

Bagri typically follows a Consonant Vowel structure, but pluralization often modifies syllable weight and structure, leading to:

4.1 Vowel lengthening

In Bagri, vowel lengthening occurs to maintain a phonological balance and is helpful in maintaining rhythm which helps in distinguishing singulars and plurals. Epenthesis (vowel insertion) is also observed which can break up difficult consonant clusters, making plural forms easier to pronounce.

The table below shows few examples along with the syllabic structures

| Structure | Word (sg.) | Meaning | Structure | Word (pl.) | Meaning |
|-----------|-----------------------|---------|-----------|------------------------|-----------|
| V:CCV | /a:n ^h o/ | blind | V:CCV: | /a:n ^h a:/ | blinds |
| CV:CCV | /pa:tjo/ | torn | CV:CCV: | /pa:tja:/ | torn(pl.) |
| CV:C | /me:dʒ/ | table | CV:CV: | /me:dʒã:/ | tables |
| CV:CV | /g ^h a:bo/ | cloth | CV:CV: | /g ^h a:ba:/ | clothes |
| V:C | /ã:k ^h / | eye | V:CV | /ã:k ^h ã/ | eyes |

Table. 1

4.2 Tonal variations

In plural formations, tonal variations involve pitch modifications and changes that distinguish singular nouns from their plurals. Bagri often uses tonal changes, unlike other Indo-Aryan languages that follow the suffixation process, either independently or in co-occurrence with other phonological processes.

The tonal system of Bagri language is likely to be developed through sound changes that have occurred historically, including loss of certain consonantal sounds. One more reason for the tonal development can be the influence of neighbouring languages like Punjabi, which itself is a tonal language and has developed a 3 tone -system over the time.

4.2.1 Examples of Tonal Variations in Plural Formation

Few examples, that has been observed in the data collected from the native speakers are:

High-falling tone:

| Singular | Plural | meaning | tone |
|---------------------|---------------------|----------|---|
| g ^h oɽa | g ^h oɽe | horse/es | normal tone changing to high falling tone |
| tʃ ^h oro | tʃ ^h ora | boy/s | level tone changing to high falling tone |

Table. 2

One thing that has been observed is that the tones are only changing at the vowel place and are rarely impacting the consonant place.

Low-rising tone:

| Singular | Plural | Meaning | Tone |
|----------|--------|----------|--------------------------------------|
| baɪ | baɪjã | sister/s | mid tone changing to low rising tone |
| ɽab:əɾ | ɽab:əɾ | kid/s | low rising tone changing to mid tone |

Table. 3

These tonal distinctions often occur in coordination with other phonological changes such as vowel quality shifts or consonant alterations. There are several over tones that have been observed like falling tone shifting to no tone, no tone shifting to low high tone. Adding to the observation, no higher tone has been shifted to a lower tone to make a plural marker. This creates a layered system of plural marking where multiple phonological cues work together.

4.3 Areal Influence on Tonal Plural Formation

The development of tonal plural marking in Bagri shows linguistic convergence. Neighboring languages like Punjabi and Western Rajasthani varieties have influenced Bagri's phonological system through centuries of contact, shared sound changes across the northwestern Indo-Aryan dialect which still continues. This represents what linguists call an "areal feature" - a linguistic characteristic that spreads across language boundaries within a geographic region.

Bagri's use of tonal variations for grammatical distinctions highlights the unique phonological character of Indo-Aryan languages in northwestern India. This feature demonstrates how languages can develop innovative grammatical marking strategies beyond the typical affixation patterns.

The presence of tonal plural marking in Bagri also supports the broader conclusion that languages in India develop through constant interaction and not in isolation. These tonal features represent both inherited Indo-Aryan characteristics and innovations emerging from language contact situations. Understanding these tonal patterns in Bagri contributes to our knowledge of how languages adapt and change within multilingual environments. The tonal plural system shows the complex interplay between inherited grammatical structures and areal innovations that characterize India's rich linguistic landscape.

5. Epenthesis (Vowel Insertion)

The phonological process of inserting vowels into specific environments plays a significant role in the plural formation system of Bagri. This process represents one of the several phonological strategies that Bagri employs to mark plurality, alongside consonantal changes, vowel lengthening, and tonal variations. Epenthetic vowels serve both phonological and morphological functions in Bagri, helping to create distinctive plural forms while simultaneously resolving potentially complex consonant clusters.

5.1 Patterns of Epenthesis in Bagri Plural Formation

In Bagri, epenthesis typically follows several systematic patterns when forming plurals:

5.1.1 Word-Final Epenthesis

When singular nouns end in consonant clusters, Bagri often inserts vowels to break up these clusters in plural forms. This epenthesis creates a more syllabically optimal structure while simultaneously marking the plural:

| Singular | Plural | Meaning |
|-------------------|--------------------|---------|
| g ^h ar | g ^h arã | house/s |

Table. 4

Here, the epenthetic (nazalized) vowel /ã/ is added to the end of the word, creating an additional syllable that serves as a plural marker while also providing a simpler syllable structure.

5.2 Medial Epenthesis

Some plural forms in Bagri involve the insertion of vowels between consonants within the word:

| Singular | Plural | Meaning |
|----------|--------|------------|
| bakrɪ | bakarɪ | goat/s (f) |

Table. 5

In this pattern, the consonant cluster /kr/ in the singular form is broken up by the insertion of an epenthetic vowel /a/ in the plural form. This medial epenthesis both marks plurality and creates a more open syllable structure.

5.3 Epenthesis with Morphological Boundaries

When certain plural suffixes would create difficult consonant sequences at morpheme boundaries, epenthetic vowels may be inserted:

| Singular | Plural | Meaning |
|-------------------|--------------------|---------|
| k ^h et | k ^h etã | field/s |

Table. 6

If the plural suffix /ã/ would create a difficult consonant cluster when attached directly to the stem, an epenthetic vowel might be inserted to facilitate pronunciation while preserving the morphological distinction.

5.4 Phonological Conditioning of Epenthesis

Epenthesis in pluralization of Bagri does not occur in arbitrary fashion, as its rules are determined by definite phonological conditions:

Consonant Sequence Constraints: Certain consonant combinations that have the potential of occurring in singular forms may be less favorable in plural forms, thus inciting epenthesis.

Syllable Structure Preferences: Bagri tend to prefer CV syllable structure in their plural forms, where vowels are inserted such that the preferred structure is obtained.

Vowel Harmony: The quality of epenthetic vowels is often influenced by the adjoining vowels, and Bagri presents characteristics of vowel harmony, whereby the epenthetic vowels agree with or harmonize with the stem vowels.

Stress Patterns: The place of stress in a word can influence the place of epenthesis, wherein vowels are inserted to maintain the preferred stress patterns in plural forms.

The patterns of epenthesis in Bagri plural formation reflect a range of areal characteristics within the Northwestern Indo-Aryan language group. The same epenthetic processes are observed in some of the neighboring languages, mentioning Punjabi, Haryanvi, and Rajasthani varieties, which means these features must have developed as a result of prolonged contact between the languages.

In this context, especially, the influence of shared epenthetic vowel quality and the environments that trigger epenthesis are evident. Shared patterns across the linguistic area tell us about how languages in geographical proximity tend to develop similar phonological strategies for marking grammatical distinctions such as plurality.

5.5 Functional Load of Epenthesis in the Plural System

Epenthesis serves multiple functions within Bagri's plural marking system:

Grammatical Marking: The insertion of vowels serves as more obvious overt markers of plurality, which distinguishes between singular and plural forms.

Phonological Optimization: Epenthesis resolves potentially difficult consonant sequences to render more optimal syllable structures.

System Integration: Epenthesis interacts with other phonological processes such as consonant voicing, vowel lengthening, and tonal variations to create a comprehensive system of plural marking.

These epenthetic patterns likely developed from earlier morphological processes that have been phonologized by the time. It could be said, plural markers that started off distinct have come to be represented by vowel insertion. They represent a sophisticated grammatical mechanism that efficiently encodes plural information through minimal additions of phonological material. This economy of expression showcases the natural evolution of language toward systems that balance clarity of communication with articulatory efficiency.

6. Consonantal Changes: Fortition and Lenition

Consonantal changes are some of the most important kinds of phonological processes in Bagri plural formation, with both strengthening (fortition) and weakening (lenition) processes noted to occur at different phonological environments. These processes are not only pivotal in the morpho-phonological system of the language in marking grammatical distinctions but also to assist articulation, achieving perceptual salience in diverse speech contexts.

6.1 Fortition in Plural Formation

Fortition is the process in which plurals are formed by strengthening consonants, typically occurring at morpheme boundaries in order to contrast the singular and plural adequately. This phonological process manifests through several distinct mechanisms in Bagri:

6.1.1 Aspiration of Unaspirated Stops

An interesting feature of plurals is that, very often in Bagri, aspiration is added to unaspirated stops, especially if found in word-initial and stressed syllable positions. Through this process, the plural form avails superiority in acoustic profile:

| Singular | Plural | Meaning |
|----------|-----------------------|----------------|
| /k:pas/ | /k:p ^h as/ | cotton (s/pl.) |
| /toto/ | /tota/ | parrot/s |

Table. 7

The aspiration serves to enhance the perceptual distinction of the plural form, while the place and manner characteristics of the original consonant remains intact.

6.1.2 Gemination

Gemination, or consonant doubling, is one of the other strategies in Bagri plural formation wherein it typically occurs in intervocalic positions:

| Singular | Plural | Meaning |
|----------|-----------|---------|
| /kɪtab/ | /kɪtabbā/ | book/s |
| /moti/ | /motti/ | pearl/s |

Table. 8

This gemination process would have the effect of elongation and increased acoustic salient articulation of the consonants reinforcing the morphological boundary between the stem and the plural (with both their degree and length of duration and formant) values being increased.

6.2 Lenition in Plural Formation

Lenition is a weakening of consonants in plural forms, mostly intervocalically or in unstressed syllables. This reflects natural articulatory tendencies toward simplification, especially in connected speech.

6.2.1 Voicing of Voiceless Consonants

One of the very common lenition processes in Bagri pluralization is the voicing of voiceless consonants mainly in intervocalic environments:

| Singular | Plural | Meaning |
|----------|----------------------|-----------------------|
| /ra:f/ | /ra:p ^h / | outer side/s of mouth |
| /ək/ | /ək ^h ja/ | fed up with thing/s |

Table. 9

The mechanism of voicing is due to the tendency to articulate with less effort, juxtaposed between vowels, resulting in partial or complete vocal fold vibration during consonant production.

6.2.2 Degemination

Degemination, or the simplification of geminate consonants, happens if the final attachment of the plural suffix formation formalizes certain consonant sequences that are phonologically complex:

| Singular | Plural | Meaning |
|----------|--------|---------|
| /bnna:/ | /bna:/ | groom/s |
| /reitto/ | /reit/ | sand |

Table. 10

This entire process of simplification reduces articulatory complexity, especially in rapid speech contexts, where maintaining geminate articulations may become challenging.

6.3 Phonological Conditioning Factors

The distribution of fortition and lenition processes in Bagri plural formation is not random but rather determined by certain phonological conditioning factors:

Syllable position: There is no fixed position in which fortition or lenition can take place. Nevertheless, it has been noted that in comparison to other positions, there are relatively fewer instances of either process at the beginning position of words.

Stress patterns: Stressed syllables tend to resist lenition and they may cause fortition, whereas unstressed syllables may facilitate the weakening process.

Adjacent segments: Adaptive behavior of surrounding segments often influences consonantal modifications, with a process of change possibly resulting in fortition or lenition, depending on the effects.

Speech rate: In rapid speech, lenition processes become more frequent since precision of articulation decreases.

The dynamic interplay between fortition and lenition processes in plural formation in Bagri reveals a fine balance between two opposing demands: perceptual distinctiveness and articulatory efficiency. The consonantal changes reflect phonologically grammatical distinctions, which differ from the morphological instances of grammatical marking by suffixation, and contribute to a rich phonological typology for the language.

7. Deletion (Elision of Sounds)

Deletion refers to the omission of phonemes in plural forms in order to obtain articulatory convenience, often in case of a phonotactic violation occurring as a result of the use of a plural suffix. It is an important phonological mechanism within Bagri for maintaining articulatory efficiency while balancing the requirement for grammatical marking of the number.

7.1 Patterns of Deletion

In Bagri pluralization, deletion commonly affects:

Redundant phonological material when plural suffixes are added: In certain phonological environments, elements that would create redundancy or aspiration are systematically eliminated, streamlining the resulting plural form while preserving its grammatical distinctiveness.

| Singular | Plural | Meaning |
|-----------------------|--------------------------|---------|
| /sa:d ^h u/ | /sa:d ^h uã/õ/ | priest |

Table. 11

Word-final segments that become unstable when plural morphology is added: Terminal phonemes of the singular form, particularly vowels and certain consonants like /h/ and glides, may be vulnerable to deletion when plural suffixes are attached, especially if they would create marked structures.

| Singular | Plural | Meaning |
|----------|--------|---------|
| /ra:h/ | /rã:/ | way |

Table. 12

Zero Marking: In some cases, it has been observed that the pluralization is happening but there is no visible grammatical or phonological change/ transition is happening. This is known as zero marking, and is particularly common with certain semantic classes of nouns.

7.2 Functional Analysis

Deletion in Bagri plural formation serves multiple functions:

Maintenance of preferred syllable structures and rhythmic patterns: Bagri exhibits preferences for certain syllable types (predominantly CV) and rhythmic modifications. Deletion helps preserve these preferred patterns by eliminating elements that would disrupt the language's natural prosodic contours.

Conservation of articulatory effort: From a functionalist perspective, deletion represents an economic measure that reduces the overall phonological substance while maintaining sufficient distinctiveness for communication purposes.

Preservation of morphological transparency: In some cases, deletion targets elements that might obscure the morphological boundary between stem and suffix, therefore maintaining the analytical clarity of the plural form irrespective of phonological modification.

These deletion processes demonstrate how Bagri balances between the demand for grammatical marking and phonological well-formedness constraints; in instances when phonological simplicity was prioritized over explicit morphological marking, these represent other dimension principles of language economy and competition between grammatical and phonological demands.

7.3 Phonological Conditioning and Constraints

It is thus clear that deletion processes in Bagri pluralization are not arbitrary but are systematically conditioned by various factors:

Phonological environment: The probability of deletion and the influences that determine its implementation are also highly dependent on segments surrounding the segment in question since some contexts favor elision than others.

Morphological structure: the kinds of plural suffix involved show further possible deletion scales, some requiring more extensive phonological modifications than others.

Lexical factors: Some lexical categories or semantic classes show distinctive patterns of deletion, indicating a high degree of interaction between phonology and lexical classification in Bagri grammar.

Register and speech rate: The extent of the deletion is usually correlated with speech rate and register markings, with casual and quick speech showing more substantial elision.

Dialect variation: Different regional varieties of Bagri reveal that the criteria for deletion can vary considerably, which reflects the language's sociolinguistic diversity in its geographical spread.

8. Metathesis (Reordering of Sounds)

Metathesis involves the reordering of sounds in plural forms, usually either towards attaining a better phonological configuration or ease in alternate pronunciation. Also, an elaborate phonological process maintaining the phonemic grouping, but using a varied arrangement of the members to gain better articulatory efficiency or perceptual distinctiveness.

8.1 Patterns of Metathesis

In Bagri pluralization, metathesis commonly occurs under the following conditions:

To resolve complex consonant clusters that arise at morpheme boundaries: When the mix of the stem and plural suffix produces difficult sequences of consonants to articulate or those which are perceptually vague, metathesis may rearrange these segments into more optimal configurations.

To create more preferred syllable structures, particularly CV patterns: Like many languages, Bagri opts for open syllables with single-onset consonants (CV); metathesis may convert less optimally structured syllables into these preferred structures.

To facilitate articulation in rapid speech contexts: Connected speech may induce metathesis when non forming material becomes modulated through speakers' efforts to afford ease of articulation and fluency.

Examples of metathesis in Bagri pluralization where the nasalization from one vowel shift to the word final when pluralized:

| Singular | Plural | Meaning |
|----------------------|----------------------|-----------|
| /b ^h æ̃s/ | /b ^h æsã/ | buffalo/s |

Table. 13

9. Reduplication

Reduplication involves the repetition of all or part of a word to indicate plurality, representing the morphophonology that accompanies suffixation in Bagri's pluralization system. This iconic process produces a direct phonological reflection of semantic plurality, setting a natural mapping between form and meaning.

9.1 Types of Reduplication

In Bagri pluralization, reduplication manifests in several forms:

Full reduplication, complete repetition of the word. The pattern leads to full duplication of the lexical item, usually with a linking element placed between the two repeated forms. Full reduplication generally indicates distributive or exhaustive plurality.

| Singular | Plural | meaning |
|----------|-------------------|----------|
| /ma:ŋəs/ | /ma:ŋəs/-/ma:ŋəs/ | man/ men |

Table. 14

Partial reduplication, where only a portion of the word is repeated: This may involve the repetition of a specific syllable (often the initial syllable) or a prosodically defined unit such as a foot. Partial reduplication frequently carries more grammaticalized plural meanings.

| Singular | Plural | Meaning |
|----------|----------------|---------|
| /ka:m/ | /ka:m/-/ka:dʒ/ | work/s |

Table. 15

Echo reduplication, where the repeated element undergoes systematic phonological modification: In this pattern, the second occurrence of the reduplicated form exhibits

predictable sound changes, typically affecting the initial consonant or vowel. It is often beyond simple plurality and extends to representing variety or comprehensiveness.

| Singular | Plural | Meaning |
|----------|--------|-----------|
| /roti/ | /voti/ | chapati/s |

Table. 16

Ablaut reduplication, where vowel alternation between the base word and its reduplicate: It includes systematic vowel movements that change between the original form and its reduplicant, follows a peculiar pattern and creates rhythmic alternations that indicate plurality.

| Singular | Plural | Meaning |
|----------|---------|----------|
| /tʃidʒ/ | /tʃudʒ/ | object/s |

Table. 17

By these examples, reduplication creates an iconic shape representing plurality through the act of repetition, reaffirming, via phonological mention, the semantic construing of multiplicity. The multiplicity underlined by various reduplication patterns allows the negation of different aspects of plurality, from different shades of mere numerosity via distributional, variousness, and completeness.

10. Conclusion

The phonological processes involved in the formation of plurals are indicative of a complex and elaborate system that reveals Bagri's deviation from standard Hindi and other Indo-Aryan languages. As shown throughout this analysis, Bagri has a less developed habit of using affixation and gives preference to phonological mechanisms varying from vowel lengthening to consonantal alterations, nasalization, and tonal alterations, to signal plurality. The Bagri dialect extends across the Bagar region traversing Haryana, Rajasthan, and Punjab, and exhibits its unique phonological strategies to pluralize nouns. These characteristics are derived from Indo-Aryan characteristics and close contact with neighboring languages, such as the Haryanvi, Punjabi, and Rajasthani varieties. The phonological processes presented in this study reveal how Bagri pluralization functions within an overall Indo-Aryan linguistic perspective.

One of the prominent principles of forming plurals in Bagri is vowel lengthening. Some form of phonological checks and balances as well as elements of rhythm in the form of Bagri allow pluralization to distinguish between singular and plural. The syllabic structures undergo systematic modifications, as demonstrated in examples like /a:nõho/ (blind) becoming /a:nõha:/ (blinds) and /pa:tjo/ (torn) transforming to /pa:tja:/ (torn-plural). These exemplify Bagri rules regarding the tendencies toward certain types of syllables and rhythmic patterns.

In contrast with any other Indo-Aryan languages that primarily depend on suffixation, Bagri makes use of tonal alternations, either separately or in combination with other phonological processes. These tonal differentiations might have arisen and developed along the lines of historical sound change, being influenced by neighboring tonal languages like Punjabi. The patterns observed are the result of most normal tones shifting to high-falling tones, such as

in the forms of /g^hoɽa/ to /g^hoɽe/ (horse/horses), showcase Bagri's innovative grammatical marking strategies.

Epenthesis here assumes both a phonological and morphological role in pluralization. The insertion of vowels in certain environments creates particular plural forms in Bagri while ameliorating potentially complex consonant clusters. This process manifests itself by way of word-final epenthesis (/ghar/ to /gharā/ - house/houses), medial epenthesis, and epenthesis at morphological boundaries. It is phonologically conditioned and reflects wider areal features of northwestern Indo-Aryan languages.

Both fortition and lenition significantly contribute to the plural marking system of Bagri. While the fortition pattern has processes like aspiration of unaspirated stops (/k:pas/ to /k:p^has/ - cotton) and gemination, lenition works via phonetic voicing of voiceless consonants, plus degemination. The phonetic changes reveal a compromise between perceptual distinctiveness and articulatory efficacy.

Some additional phonological processes include deletion (elision of sounds), metathesis (the order of sounds switched), and all varieties of reduplication. Deletion ensures preferable syllable structures are maintained and less articulatory effort needed, while complicated consonant clusters are cleared by metathesis. Reduplication-whether full, partial, echo, or ablaut-creates an iconic manifestation of plurality through repetition.

Bagri's various pluralization strategies are a prime example of how languages in India evolve through constant interaction with other languages rather than in isolation. The phonological processes covered in this study illustrate the complex interrelation of inherited grammatical structures and areal innovations that shape the typologically rich linguistic landscape in India. By demonstrating the pluralization strategies of Bagri amid the increasing pressures of regional dialects against standard languages, we can gain a deeper insight into the typological diversity of morphophonological processes and contact-induced shifts.

List of Abbreviations, Maps and Tables

1. Abbreviations

| Abbreviation | Full Form |
|---------------------|--------------------------------------|
| IPA | International Phonetic Alphabet |
| CV | Consonant-Vowel (syllable structure) |
| sg. | Singular |
| pl. | Plural |
| M | Masculine |
| F | Feminine |
| SOV | Subject-Object-Verb |

| | |
|---|-----------|
| V | Vowel |
| C | Consonant |

2. Map

Map 1: Geographical Distribution of Bagri Language Shows Bagri-speaking districts in Rajasthan, Haryana, Punjab (India), and parts of Pakistan (Bahawalpur & Bahawalnagar).

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